STATEMENT OF BASIS

for draft Louisiana Pollutant Discharge Elimination System permit No. LA0115592
to discharge to waters of the State of Louisiana.
AI No.: 85341 / Activity No.: PER20070001

THE APPLICANT IS: Jefferson Davis Parish Water & Sewer Commission No. 1
P.O. Box 515
Lake Arthur, LA 70549

Facility
Jefferson Davis Parish Water & Sewer Commission No. 1
Water Treatment Plant
Aguillard Road ¾ mile west of Thornwell
Jefferson Davis Parish

ISSUING OFFICE: Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services
Post Office Box 4313
Baton Rouge, Louisiana 70821-4313

PREPARED BY: Bonnie Fleming

DATE PREPARED: August 07, 2007

1. PERMIT STATUS

A. LPDES permit – LA0115592
LPDES permit effective date: August 11, 2003
LPDES permit expiration date: August 10, 2008

B. LWDPS permit – NA
LWDPS permit effective date: NA
LWDPS permit expiration date: NA

C. Date Application Received: May 23, 2007

2. FACILITY INFORMATION

A. FACILITY TYPE/ACTIVITY – potable water treatment plant

The Jefferson Davis Parish Water & Sewer Commission No. 1 Water Treatment Plant is an existing water treatment facility in Thornwell, Jefferson Davis Parish. Source water is from ground water wells. The raw water is injected with chlorine gas and potassium permanganate. The water is then sent through the greensand pressure filters used for the removal of iron and manganese and then to the zeolite softeners. After the softeners, the water is injected with chlorine gas again and either distributed to customers or pumped in to on-site storage tanks.

The filters are backwashed and the softeners are regenerated with a brine solution. The wastewaters from the filters and softeners are sent to the detention pond.

The sanitary discharge from the facility is treated by a mechanical treatment package plant that discharges to the detention pond. This wastewater combines with the backwash wastewater in the detention pond before final discharge. The discharge from the mechanical package plant is estimated at less than 80 GPD.

B. FEE RATE
1. Fee Rating Facility Type: minor
2. Complexity Type: I
3. Wastewater Type: III
4. SIC code: 4941

C. LOCATION - Aguillard Road ¾ mile west of Thornwell
Jefferson Davis Parish
Latitude +30° 06' 04", Longitude -92° 48' 34"

3. OUTFALL INFORMATION

Outfall 001

Discharge Type: Iron and manganese filter and softener backwash wastewater and previously treated sanitary wastewater (Outfall 101)
Treatment: Settling
Location: at the point of discharge from the detention pond prior to mixing with other waters
Flow: 56,000 GPD
Discharge Route: Thornwell Drainage Canal via local drainage, thence to Bayou Lacassine

Outfall 101

Discharge Type: Treated sanitary wastewater
Treatment: Package plant
Location: at the point of discharge from the package plant prior to mixing with waters in the detention pond
Flow: 80 GPD
Discharge Route: via Outfall 001 to Thornwell Drainage Canal via local drainage, thence to Bayou Lacassine

NOTE: This facility does not require storm water permit coverage because it does not discharge regulated storm water. The facility's SIC code, 4941, is not listed in the storm water regulations at LAC 33:IX.2341.B.14.a-k and therefore the storm water runoff from the site is not classified as regulated industrial storm water.

4. RECEIVING WATERS

STREAM – Outfall 001 – Thornwell Drainage Canal via local drainage, thence to Bayou Lacassine

HARMONIC MEAN – 1 cfs (see attached June 8, 2007, Memorandum from William Barlett to Bonnie Fleming)

BASIN AND SEGMENT – Mermentau River – Subsegment 050601

IN STREAM CHLORIDE STANDARD for Lacassine Bayou – 90 mg/l

DESIGNATED USES -

a. primary contact recreation
b. secondary contact recreation
c. propagation of fish and wildlife
d. agriculture

5. EXISTING EFFLUENT LIMITS

1. **Outfall 001** – Iron and manganese filter and softener backwash wastewater

Pollutant	Limitation Mo. Avg: Daily Max	Monitoring
Flow (GPD)	---: Report	Monthly
Total Recoverable Iron	---: Report	Quarterly
Chlorides	783.6:1860.4 mg/l	Monthly
Clarifying Agents Used	---: Report	Monthly
TSS	30: 45 mg/l	Monthly
pH	6.0 - 9.0 s.u.	Monthly

6. PROPOSED EFFLUENT LIMITS

BASIS – See rationale below.

7. COMPLIANCE HISTORY/COMMENTS

A. Compliance History

The facility was issued a warning on August 3, 2005 for exceedances and un-permitted sewage discharge.

B. DMR Review/Excursions

49 DMRs were reviewed for the period of January 2004- March 2007. The review revealed 30 exceedances for the chlorides parameter and one exceedance for the TSS parameter.

8. ENDANGERED SPECIES

The receiving waterbodies and proposed discharge are not listed in Section II.2 of the Implementation Strategy as requiring consultation with the U.S. Fish and Wildlife Service (FWS). This strategy was submitted with a letter dated September 29, 2006 from Watson (FWS) to Brown (LDEQ). Therefore, in accordance with the Memorandum of Understanding between the LDEQ and the FWS, no further informal (Section 7, Endangered Species Act) consultation is required. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat. Therefore, the issuance of the LPDES permit is not likely to have an adverse effect on any endangered or candidate species or the critical habitat.

9. 303 (d) LISTED WATERBODIES

Subsegment 050601, Lacassine Bayou-Headwaters to Mermentau River, is not listed on LDEQ's Final 2004 303(d) list as impaired. However, subsegment 050601 was previously listed as impaired for Lacassine Sugar Mill DO and nutrients for which TMDLs have been developed. The Department of Environmental Quality reserves the right to impose more stringent discharge limitations and/or additional restrictions in the future to maintain the water quality integrity and the designated uses of the receiving water bodies based upon additional TMDLs and/or water quality studies. The DEQ also reserves the right to modify or revoke and reissue this permit based upon any changes to established TMDLs for this discharge, or to accommodate for pollutant trading provisions in approved TMDL watersheds as necessary to achieve compliance with water quality standards.

The following TMDLs have been established for subsegment 050601:

A Draft TMDL for the Lacassine Syrup Mill was public noticed July 12, 2005. Waste load allocations have been developed for the summer and winter seasons and will be incorporated into the TMDL. No other dischargers were included in the TMDL.

Bayou Lacassine Watershed TMDL

Only two point source dischargers (Town of Welsh and Lacassine High School) were considered in the WLA models. All other dischargers were considered to be too small to contribute to the impairment. The discharge from this facility is small and travels a significant distance before reaching the impaired stream; therefore the discharge from this facility should not have a significant impact on the receiving stream.

10. HISTORIC SITES

The discharge is from an existing facility location, which does not include an expansion on undisturbed soils. Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the "Memorandum of Understanding for the Protection of Historic Properties in

Louisiana Regarding LPDES Permits" no consultation with the Louisiana State Historic Preservation Officer is required.

11. TENTATIVE DETERMINATION

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to issue a permit for the discharge described in the application.

12. PUBLIC NOTICES

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the statement of basis. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.
Public notice published in:

Local newspaper of general circulation
Office of Environmental Services Public Notice Mailing List

Rationale for Water Treatment Plant

1. **Outfall 001** – Iron and manganese filter and softener backwash wastewater and previously treated sanitary wastewater (Outfall 101)

Pollutant	Limitation* Mo. Avg: Daily Max	Reference
Flow (GPD)	---: Report	LAC 33:IX.2361.I.1.b
Chlorides	2176.8: 5167.8 mg/l	Water Quality**
Total Recoverable Iron	---: Report	Similar discharges** (BPJ)
Clarifying Agents Used	Report: Report	Similar discharges** (BPJ)
TSS	30: 45 mg/l	Similar discharges** (BPJ)
pH	6.0 - 9.0 s.u.	Similar discharges** (BPJ)

Treatment: Settling

***Monitoring Frequency:** Once per month for Flow and Chlorides. Due to past compliance, a performance-based frequency reduction is granted for TSS and pH, to once per quarter. "Report" requirements for Total Recoverable Iron and Clarifying Agents Used are set at once per quarter, at the point of discharge from the detention pond prior to mixing with other waters.

2. **Outfall 101** – Treated sanitary wastewater

Pollutant	Limitation* Mo. Avg: Weekly Avg	Reference
Flow (GPD)	---: Report	LAC 33:IX.2361.I.1.b
BOD	---: 45 mg/L	Similar discharges** (BPJ)
Fecal Coliform Colonies/ 100 ml	---: 400	Similar discharges** (BPJ)

Treatment: Package plant

***Monitoring Frequency:** Once per six months at the point of discharge from the package plant prior to mixing with waters in the detention pond.

****Limits Justification:** For all parameters except Chlorides, limits and monitoring frequencies are based on the general permit for potable water treatment plants (LAG380000) effective on January 1, 2005 and modified on September 1, 2007, raw water from ground water sources. TSS and pH for the sanitary wastewater component will be regulated at the final outfall. A water quality screen (attached) was performed to calculate the water quality based limit for chlorides.

The receiving waterway (unnamed local drainage to Thornwell Drainage Canal) is not listed by name in the Numerical Criteria and Designated Use Table (LAC 33:IX.1123 Table 3); therefore, the allowable in-stream chloride standard of 250 mg/l will be used (LAC 33:IX.1113.C.2). Agriculture is one of the defined uses for the named waterbody. Based on known tolerances for agricultural usages, specifically rice which can tolerate up to 600 mg/l and crawfish production, the level of 250 mg/l will be protective of all uses of the waterway.

Receiving stream flow was established for Bayou Lacassine via the Thornwell Drainage Canal by the engineering support group at 0 cfs 7Q10 and 1 cfs harmonic mean. (See attached email 6/08/2007, Will Barlett to Bonnie Fleming)

The harmonic mean, rather than the critical flow, was used for calculating the permit limitations for the chloride discharges in accordance with LAC 33:IX.1115.C.8, which states "For chlorides, sulfates and total dissolved solids, criteria are to be met below the point of discharge after complete mixing. Because criteria are developed over a long-term period, harmonic mean flow will be applied for mixing."

Page 7 of the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standard provides, under Harmonic Mean Flow, that a harmonic mean value of 1 cfs shall be the default harmonic mean flow when harmonic mean value is $\leq$ 1 cfs, for streams not designated intermittent at LAC 33.IX.1123, Table 3. Therefore, a harmonic mean value of 1 cfs was used in the calculations to determine the appropriate water quality based limit for chlorides.

The calculation yielded values of 2176.8 mg/l (Monthly Average) and 5167.8 mg/l (Daily Maximum). It was determined that a water quality based permit limitation is necessary to maintain the in-stream standard of 250 mg/l which was established to protect the uses of the water body as primary and secondary contact recreation, fish and wildlife propagation, and agriculture.

Note: The Potable Water Treatment Plant General Permit is not appropriate for this facility because the facility treats the raw water by means of a zeolite ion exchange in the softening process. The zeolite is recharged using a sodium chloride solution which produces a high chloride concentration in the wastewater. Therefore a facility specific permit is required to determine the appropriate water quality based permit limit for discharges of chlorides.

* Based on current guidance for new permits discharging into a waterbody listed on the Court Ordered 303(d) list.
BPJ Best Professional Judgment
GPD Gallons per Day
su Standard Units

NOTE:
For outfalls containing concentration limits, the usage of concentration limits is based on BPJ for similar outfalls since the flow is variable and estimated.

Storm Water Pollution Prevention Plan (SWP3) Requirement

Discharges from this facility are not classified as industrial storm water per LAC 33:IX.2341.B.14. Therefore, the Storm Water Pollution Prevention Plan (SWP3) requirement is not included in this permit.

However, per LAC 33:IX.903.B, all above ground storage tanks with a capacity of 660 gallons for an individual container or 1320 for multiple containers, must have secondary containment and a Spill Prevention and Control Plan.